



**PROFESSIONAL SERVICES AGREEMENT**

**For**

**NE 36<sup>th</sup> Street Reconstruction - I-35 Interchange to NE Delaware Avenue  
Preliminary and Final Design**

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THIS **AGREEMENT** is between City of Ankeny (hereafter "CLIENT") and HR GREEN COMPANY, (hereafter "COMPANY").

## **1.0 Project Understanding**

### **1.1 General Understanding**

The project involves reconstructing NE 36<sup>th</sup> Street from NE Raintree Drive (approximately 900 feet west of NE Delaware Avenue) to 700 feet east of NE Otter Creek Drive and upgrading the roadway from a two-lane rural section to a four-lane urban section with raised medians. In conjunction with the NE 36<sup>th</sup> Street reconstruction, NE Delaware Avenue will be reconstructed from approximately 600 feet south to 700 feet north of NE 36<sup>th</sup> Street. The project also involves adding turn lanes and a traffic signal at the NE 36<sup>th</sup> Street and NE Delaware Avenue intersection, adding recreational trail and sidewalk along NE 36<sup>th</sup> Street, and public utility improvements and relocations within the corridor.

Limited conceptual design for the project was completed in 2008 and 2009, as part of the conceptual design work for the I-35 and NE 36<sup>th</sup> Street Interchange project, so the proposed horizontal and vertical alignments for NE 36<sup>th</sup> Street could be coordinated between the two projects.

The CLIENT will use Surface Transportation Program (STP) funding to help finance the project; therefore, the NE 36<sup>th</sup> Street Reconstruction project will need to follow the Iowa DOT - Office of Local Systems Federal-aid Project Development Process.

In general, the following work will be completed for the project: supplemental field surveys and mapping, preliminary design, public involvement, geotechnical investigations and engineering, real estate services, final design, and contract document preparation.

### **1.2 Design Criteria/Assumptions**

- Iowa DOT – Office of Local Systems urban design criteria will be used for the project.
- Survey information obtained for the I-35 and NE 36<sup>th</sup> Street interchange project can be used and only supplemental topographic and utility surveys are required.
- Existing property pins will be located along the NE 36<sup>th</sup> St. and NE Delaware Ave. rights-of-way only. Boundary and legal surveys and reports of record ownership and liens (i.e. title searches) for parcels within the project area are not required.
- Public involvement activities will be limited to one (1) public information meeting and four (4) individual property owner meetings, as described herein. Meetings with local interest groups and organizations are not included. Additional coordination and meetings with individual property owners, the general public and project stakeholders will be completed by the CLIENT.
- The preliminary design for NE 36<sup>th</sup> Street will be based on the conceptual design work for the I-35 and NE 36<sup>th</sup> Street Interchange project, which was completed in 2008 and 2009.
- The improvements on NE Milan Ave. and NE Otter Creek Dr. will extend a maximum of 200 feet from the centerline of NE 36<sup>th</sup> Street.

- Traffic engineering services (e.g. traffic counts, operational analysis, crash analysis, traffic impact studies) other than traffic signal warrant analysis and traffic signal design are not required.
- The CLIENT will purchase the traffic signal equipment and furnish it to the project's contractor for installation. A Public Interest Finding (PIF) will be required to justify the CLIENT furnishing the proprietary equipment for the new traffic signal system.
- One (1) "non-structural" (i.e. less than or equal to three (3) feet in height) retaining wall will be required, and standard block (e.g. Keystone, Versa-Lok) will be used for the retaining wall system. No special architectural/aesthetic treatments will be incorporated into the retaining walls. Since the retaining wall system will be a proprietary product selected by the project's contractor, the final design of the retaining wall system will be completed by the contractor and wall manufacturer.
- Detailed pavement design is not necessary.
- No water main or sanitary sewer improvements are required other than hydrant and valve adjustments/relocations, sanitary sewer utility access adjustments, and spot relocations of water main and sanitary sewer due to the proposed roadway and drainage improvements.
- No aesthetic or architectural treatments will be included. Landscaping designs will be limited to standard grass cover. Landscape designs for irrigation system replacement/relocation, if necessary, will be completed by others.
- Permanent traffic signing plans will be included in the final design plans for informational purposes. The permanent traffic signing will be furnished and installed by the CLIENT.
- No lighting design or photometric analysis is required other than the final lighting design for the luminaires on the traffic signal poles at the NE 36<sup>th</sup> St. and NE Delaware Ave. intersection. If roadway lighting is installed along NE 36<sup>th</sup> St. and NE Delaware Ave., it will be a separate project, and the photometric analysis and lighting design will be completed by the applicable utility company. Coordination of the separate lighting project will be completed by the CLIENT. The COMPANY's involvement with the separate lighting project will be limited to plotting the proposed light pole locations on the final design plans for informational purposes and reviewing the proposed light pole locations for coordination with the proposed roadway and utility improvements.
- Preliminary and final design plans will be prepared using Iowa DOT CADD standards, specifications and formats and will be produced in MicroStation V8i electronic format.
- The preliminary and final design, preliminary plans, contract document preparation, letting services, and construction phase services for the Twin 10' X 8' Reinforced Concrete Box (RCB) culvert extension at approximately Sta. 68+60 (Lt.) will be completed by the CLIENT as part of a separate project in 2011.
- The following permits will be required for the project: USACE/IaDNR Section 404/401 (joint), IaDNR Floodplain Development, and IaDNR Storm Water (NPDES). The CLIENT will prepare the USACE/IaDNR Section 404/401 (joint) and the IaDNR Floodplain Development permit applications. The CLIENT will also prepare the IaDNR Storm Water (NPDES) permit applications for the roadway reconstruction project and the RCB culvert extension project.
- Only basic geotechnical investigations and engineering are required to provide recommendations for earthwork, subgrade preparation, and pavement support structure. No geotechnical investigations and engineering are necessary for the "non-structural" retaining wall.

- Borrow design is not required. If borrow material is required to balance the earthwork, contractor furnished borrow will be used.
- No right-of-way (fee title or permanent easement) acquisition will be required, but temporary construction easements (assume 6) will be required. The COMPANY will prepare an exhibit and description for each temporary construction easement. The COMPANY, through its subconsultant, will also prepare compensation estimates and perform negotiations and acquisitions of the temporary easement areas needed for the project. Closing and/or eminent domain services, if required, will be completed by the CLIENT or others.
- The temporary construction easements will not need to be filed with the Polk County Recorder. If filing is required, the CLIENT will pay the recording fees.
- The level of National Environmental Policy Act (NEPA) documentation will be an Individual Countersigned Categorical Exclusion (CE). It is assumed cultural resources data coordination (but not the actual evaluation) and a Section 4(f) determination process (but not the actual evaluation, unless required and conducted as Extra Work) will be completed by the COMPANY. Wetlands delineation will be completed by the CLIENT.
- NEPA clearance will be readily obtained from the Iowa DOT and FHWA such that the project schedule will be maintained.
- The project will be financed with federal funds through the Surface Transportation Program (STP) and local funds from the CLIENT. No special assessments funding will be used to finance the project.
- One (1) bid letting package (i.e. no separate bid letting packages for grading, utilities, traffic signals, etc.)

## **2.0 Scope of Services**

The CLIENT agrees to employ COMPANY to perform the following services:

### **Task A – Project Management and Administration**

#### **A.1 Development of Project Instructions, Schedule, and Detailed Work Plan**

Prepare written instructions for project staff, providing background, names of contacts, communications procedures, responsibilities, schedule and budget information, and other important elements for the project. Establish a graphic project schedule indicating critical dates, milestones, and deliverables, which will be revised as necessary. A detailed work plan will also be prepared with specific staff assignments, by task, corresponding to the schedule.

#### **A.2 Coordination with Project Stakeholders**

Maintain communications with the CLIENT, Iowa DOT, and other project stakeholders. Meet with the CLIENT's staff to review progress and discuss specific elements of the project (assume four (4) meetings in Ankeny, IA). The meetings will also serve to develop project goals, establish initial design parameters, review schedules, promote dialog between the various stakeholders, improve the decision-making process, and expedite project development. Prepare minutes of meetings and keep documentation of other communications. It is assumed two (2) project team members of the COMPANY will participate in the CLIENT meetings.

The following meetings are included with the scope of work:

Project Kick-off & Concept Plan Review – one (1) meeting  
Preliminary Design Phase – two (2) meetings  
Final Design Phase – one (1) meeting

### **A.3 Project Monitoring and Progress Reports**

Maintain the system for monitoring progress and expenditures to allow monthly tracking by task. Prepare and submit monthly progress reports outlining the following:

- Activities during the reporting period,
- Activities planned for the following month,
- Cost trending,
- Problems encountered and recommended solutions, and
- Overall status.

The project duration is assumed to be twelve (12) months to meet the Iowa DOT January 2012 letting date. This task includes reviewing the project schedule, budget and status with senior management at approximately two (2) month intervals.

### **A.4 Subconsultant Management**

Coordinate with the subconsultants. Activities include preparing subcontracts and work orders, monitoring work tasks, coordinating invoicing, maintaining communications, and sharing project information. It is assumed two (2) subconsultants will be used on the Project for the following work tasks: geotechnical investigation and engineering; preparing compensation estimates and the temporary easement negotiations/acquisitions.

### **A.5 Quality Control Plan**

Establish review and checking procedures for the project deliverables. Designate responsibility for implementation of the Plan.

### **A.6 Quality Assurance Review of Preliminary and Final Design Deliverables**

Quality Assurance is the process of executing the established Quality Control procedures, which consist of design and plan checking, constructability reviews, and quality control reviews. Typically, checking effort is included in individual task items and will be completed at appropriate points in time for that specific task. However, for major deliverables that require assembling data or plan sets from a combination of tasks or discipline teams, overall reviews of content and accuracy will be completed. It is anticipated that these reviews will be completed prior to submittal of the following deliverables:

- Preliminary Plans
- Check Plans
- Final Plans
- Opinions of Probable Construction Cost (w/ Preliminary Plans and Final Plans)

### **A.7 Project Management**

The project manager for the COMPANY will be responsible for general coordination with the CLIENT regarding project activities, meetings, invoicing, and deliverables. This task also consists of interoffice administration and coordination of the project including



interoffice meetings, which will be attended by the project manager and other technical staff, as well as general day-to-day administrative tasks.

### **Task B – Survey and Mapping**

Preliminary survey and mapping information along NE 36<sup>th</sup> Street, which was obtained in 2008 for the I-35 and NE 36<sup>th</sup> Street interchange project, will be used on the project. Supplemental survey information will be obtained in areas not included in the original survey for the interchange project and in areas that have changed since the original survey and mapping information was obtained.

#### **B.1 Property Ownership and Research**

- a) Research City and County records including right-of-way strip maps, subdivision plats, section corner ties, and surveys to be used in the locating of property pins along the roadway corridor and establishment of the right-of-way lines and section lines and to determine ownership of the properties affected by the Project.
- b) Prepare a drawing with property lines, roadway right-of-way lines and section lines within the project limits as shown on existing plats and other documents of record along with the land corner monuments and property pins located.
- c) Check property ownership information from public records and add property owner names to the project mapping for public display and plan preparation purposes.

#### **B.2 Right-of-Entry**

Request right-of-entry for performing supplemental survey tasks. Prior to beginning field survey activities, the COMPANY will prepare a letter explaining the proposed project and requesting permission to access private property for the purpose of obtaining survey information. The letters will be sent by the CLIENT to applicable landowners. It is assumed right-of-entry will be required from five (5) landowners.

#### **B.3 Ground Control**

- a) Horizontal Control – Locate survey control points established during the preliminary survey for the I-35 and NE 36<sup>th</sup> St. interchange project. Establish additional control points (assume 5) along NE 36<sup>th</sup> St. and NE Delaware Ave., as necessary. The additional control points will be referenced to physical features.
- b) Vertical Control – Locate benchmarks established during the preliminary survey for the I-35 and NE 36<sup>th</sup> St. interchange project. Establish additional benchmarks (assume 5) and elevations of additional control points along NE 36<sup>th</sup> St. and NE Delaware Ave.

#### **B.4 Topographic Survey (Supplemental)**

Conduct a field review of the preliminary survey and mapping information obtained for the I-35 and NE 36<sup>th</sup> St. interchange project to determine the areas where supplemental topographic survey is needed. This task includes additional survey coverage that is often required as the design is further refined and field survey of soil boring locations. It is assumed 40 hours of survey crew time will be required to supplement the previously

collected information and provide additional topographic survey during the design development.

#### **B.5 Utility Survey (Supplemental)**

Conduct a field review of the preliminary survey and mapping information obtained for the I-35 and NE 36<sup>th</sup> St. interchange project to determine the areas where supplemental utility survey is needed. Contact utility owners of record, using the Iowa One Call system, to request current maps of facilities within the project area. Review maps provided by facility owners and make an additional request, using the Iowa One Call system, that the buried utilities be marked in the field. Perform supplemental field survey to establish coordinates and elevations (if possible) for utilities within the project limits that are visible, have been marked on the ground by the utility owner, or have been potholed by others. Generate a coordinate listing of the points surveyed and a plot showing the field surveyed utilities, including utility names and descriptions. It is assumed 24 hours of survey crew time will be required to supplement the previously collected information. Excavating and potholing to expose buried utilities are not included in this Scope of Services.

#### **B.6 Base Mapping and Digital Terrain Modeling**

- a) Base Map – The planimetric CAD base-mapping prepared for the I-35 and NE 36<sup>th</sup> St. interchange project will be revised to include the supplemental and updated topographic and utility survey information.
- b) Digital Terrain Model – The Digital Terrain Model and ground contours (at one-foot intervals) created for the I-35 and NE 36<sup>th</sup> St. interchange project will be revised to include the supplemental and updated topographic survey information.

### **Task C – Public Involvement**

#### **C.1 Notification Letters**

Prepare one (1) notification letter (on the CLIENT's letterhead) for distribution by the CLIENT prior to the public information meeting. The letter will explain the project, announce the upcoming meeting, and provide a brief update on the status of the project. The COMPANY will compile and maintain the address database of the properties adjacent to the project area.

#### **C.2 Public Information Meeting**

Prepare for and attend one (1) public information meeting at a site provided by the CLIENT for project stakeholders, adjacent property owners, and the general public to gather input and disseminate information. It is assumed the public information meeting will be led by the CLIENT's staff using an open-house format, and the COMPANY will provide technical assistance during the meeting. This task includes preparing display materials and handout information, attending the meeting, preparing minutes of the meeting, and reviewing results of the meeting with the CLIENT's staff. It is assumed two (2) project team members of the COMPANY will attend the meeting.



### **C.3 Individual Property Owner Meetings**

Prepare for and attend four (4) separate individual property owner meetings, two (2) with Briarwood Golf Course representatives and two (2) with Otter Creek Golf Course representatives, and CLIENT staff during the project's design development to review the proposed preliminary design (e.g. property impacts, construction staging, etc.). It is assumed one (1) project team member of the COMPANY will attend the meetings.

## **Task D – Concept Study**

### **D.1 Data Assembly**

Review previously compiled roadway, utility, right-of-way, and opinion of cost information. Compile additional roadway, utility, right-of-way, and opinion of cost information provided by the CLIENT and others. Review, organize and file information for use in the project development.

### **D.2 Design Criteria and Constraints**

Develop the project design criteria based on Iowa DOT – Office of Local Systems design standards and policies and input from the CLIENT and Iowa DOT. The criteria to be addressed include:

- Functional classifications and design types for NE 36<sup>th</sup> St. and NE Delaware Ave.
- Design speed.
- Design vehicles for intersection design.
- Pavement design life.
- Design year drainage requirements.
- Provisions for pedestrians and bicycles.
- Maintenance of traffic during construction, including access requirements, allowable lane closures, and other issues.
- Utility corridor/joint trench location(s).

The design criteria will be used in the following evaluations:

- Establish centerline geometry.
- Establish and evaluate geometric elements of the proposed improvements.
- Establish and evaluate alternative typical section dimension requirements including locations of sidewalk and recreational trail.
- Identify constraints such as utilities, trees, private infrastructure, drainage-related elements, clear zone, etc. that will govern the design.

The project design criteria will be documented in the Iowa DOT Concept Statement.

### **D.3 Conceptual Opinion of Probable Cost**

Prepare a conceptual opinion of probable cost (OPC) for the Project as defined by the conceptual plan. Simplified cost models will be used based on unit costs for major items such as removals, earthwork, drainage improvements, subbase, pavement, sidewalk/recreational trail, and traffic signals, with other items estimated as a percentage of construction costs. Detailed quantity takeoffs will not be developed for the conceptual OPC. Recent bid information and a minimum 20% contingency will be used to develop the cost models.

#### **D.4 Traffic Signal Warrant Analysis**

A traffic signal warrant analysis will be completed to determine if the projected opening day traffic volumes satisfy the volume-based signal warrants described in the Manual on Uniform Traffic Control Devices (MUTCD) at the NE 36<sup>th</sup> St. and NE Delaware Ave. intersection. It is assumed the traffic signal warrant analysis will be completed using the opening day traffic projections for the stated intersection as defined in the I-35/E. 1<sup>st</sup> St. and NE 36<sup>th</sup> St. Interchange Justification Report, dated March 2008. It is also assumed no traffic counts or additional traffic forecasting will be necessary to complete this task. A memo documenting the warrant analysis will be submitted to the Iowa DOT and the CLIENT for review. Based upon direction from the Iowa DOT and the CLIENT, the COMPANY will proceed with the traffic signal design and plan preparation tasks, as detailed in the Scope of Services.

#### **D.5 Iowa DOT Concept Statement**

Complete and submit the Concept Statement to the Iowa DOT. This may be prepared and submitted before the completion of the Concept Study phase.

#### **Task E – Preliminary Design**

Based upon the approved conceptual design, the COMPANY will perform preliminary design services including the preparation of preliminary design plans depicting the proposed grading, drainage, paving, utility improvements and adjustments, and other features of the Project. The deliverables for the preliminary design phase include preliminary plans in accordance with Iowa DOT Local Systems requirements and a preliminary opinion of probable construction cost. The work tasks to be performed by the COMPANY under Preliminary Design shall consist of the following:

##### **E.1 Preliminary Design**

###### *1.1 Develop Typical Sections*

Develop preliminary typical cross sections for mainline and side roads based on the design criteria outlined in the Concept Statement. Preliminary typical cross sections will be developed based on 9" PCC pavement and 6" modified subbase. It is anticipated that seven (7) typical cross sections will be developed.

###### *1.2 Develop Horizontal Alignments and Vertical Profiles*

Develop preliminary horizontal alignments and vertical profiles for mainline and side roads based on the design criteria outlined in the Concept Statement and the concept alignments and profiles developed for the I-35 and NE 36<sup>th</sup> Street interchange project. Alignment and profile designs will consider right-of-way restrictions/impacts, drainage design, recreational trail/sidewalk facilities, and other constraints (e.g. utilities).

###### *1.3 Cross Section Design*

Integrate preliminary horizontal and vertical alignments, typical cross sections, and existing sections to prepare initial cross sections and determine slope intercepts for the roadways, as needed for guidance during design, review, and quantity estimating. Cross sections will be created at regular intervals and at geometric break points and transition points (e.g. begin/end lane taper) using GEOPAK's "Corridor Modeler" program. Revise cross sections to accommodate grading/side drainage design and erosion control facilities.

#### *1.4 Intersection Design*

Refine the concept geometrics for the NE Raintree Dr., NE Delaware Ave., NE Milan Ave., and NE Otter Creek Dr. intersections with NE 36<sup>th</sup> St. Intersection geometric (horizontal and vertical) designs will consider right-of-way restrictions, drainage design, addition of recreational trail/sidewalk, existing utility locations, and other constraints (e.g. private property infrastructure). Intersection returns will be designed to accommodate selected design vehicle turning paths.

#### *1.5 Storm Sewer and Drainage Design*

Develop a "Storm Water Management Plan" for the area surrounding the proposed improvements. This plan will inventory the existing hydrologic and hydraulic conditions and analyze the effects the proposed improvements will have on the drainage patterns of areas surrounding the project. Analyses of upstream trunk lines and downstream outfalls are excluded. Once the effects have been quantified, a storm sewer design will be developed in accordance with Chapter 4 of Iowa DOT's Design Manual to support the proposed improvements. Preliminary storm sewer structure locations and pipe sizes will be shown in plan view on the roadway plan and profile sheets. It is assumed approximately 35 new storm sewer structures will be required. This task includes the preliminary design of erosion control measures to be provided on the Project and an evaluation of storm water quality features (e.g. bio-swales, bio-retention basins) to be incorporated in the Project. A detailed, area wide drainage study and storm water quantity management (detention) are not included in this Scope of Services.

#### *1.6 Traffic Signal Design*

Based upon direction from the Iowa DOT and the CLIENT, the COMPANY will develop a preliminary traffic signal design for the NE 36<sup>th</sup> St. and NE Delaware Ave. intersection. This will include the preliminary traffic signal layout, conduit layout, phasing, and bicycle/pedestrian accommodations. The traffic signal design will be based on the following assumptions: video detection and equipment consistent with the CLIENT's existing traffic signal systems will be used for the new traffic signals; the CLIENT will purchase the traffic signal equipment and furnish it to the project's contractor for installation; pedestrian "countdown" heads will be provided on the new traffic signals; and traffic signal interconnect (NE Delaware Ave. to I-35) will be installed as part of the Project.

#### *1.7 Staging and Traffic Control/Detour Design*

Develop a preliminary construction staging plan and traffic control/detour plan to indicate how traffic will be maintained during construction. The plan will include provisions for maintaining through traffic and managing access during construction. Use the refined concepts agreed to at this stage as the basis for preparing the final construction staging and traffic control/detour plan in the final design phase.

#### *1.8 Joint Utility Trench Design*

Evaluate the feasibility of including a joint utility trench (for public and private utility facilities) with the proposed improvements and review with the CLIENT and utility company representatives. This task includes one (1) meeting in Ankeny, IA with the CLIENT and utility company representatives during the preliminary design phase to discuss the joint utility trench design. It is assumed two (2) project team members of the COMPANY will participate in the meeting. Based upon direction from the CLIENT and

utility company representatives, the COMPANY will develop a preliminary joint utility trench design for the NE 36<sup>th</sup> St. corridor. This will include the preliminary joint trench typical cross sections (assume two), horizontal alignments and vertical profiles. The preliminary joint utility trench layout will be shown in plan view on the roadway plan and profile sheets.

#### *1.9 Retaining Wall Design*

Identify preliminary locations (plan and elevation) of retaining wall for the purposes of determining construction limits, temporary easement needs, and developing the preliminary opinion of probable construction cost. Preliminary retaining wall locations will be shown in the plan view on the roadway plan and profile sheets and on the cross sections. It is assumed one (1) "non-structural" (i.e. less than or equal to three (3) feet in height) retaining wall will be required in the SW quadrant of the NE 36<sup>th</sup> St. and NE Delaware Ave. intersection, and it is assumed standard block (e.g. Keystone, Versa-Lok) will be used for the retaining wall system.

### **E.2 Preliminary Plan Preparation**

The number of plan sheets and cross sections stated herein are considered estimates. The actual number of plan sheets and cross sections in the Preliminary Plans may vary. The scales of the applicable plan sheets stated herein are assumed such that the appropriate level of detail is provided on the sheets. The scales will be verified with the CLIENT during preparation of the Preliminary Plans.

#### *2.1 Preliminary Title and General Information, A Sheets – 3*

Prepare preliminary title and general information sheets.

#### *2.2 Preliminary Typical Sections and Details, B Sheets – 5*

Prepare preliminary typical cross section and detail sheets for the Project. Include the mainline and side road typical sections and preliminary standard details.

#### *2.3 Preliminary Estimate of Quantities, C Sheets – 1*

Develop a preliminary determination of the bid items to be included in the Project, along with an estimate of quantity for each item.

#### *2.4 Preliminary Plan and Profiles, D and E Sheets – 5*

Prepare preliminary plan and profile sheets for mainline and sideroads. The drawings will show existing topography and utilities, proposed roadway and utility improvements, existing and proposed drainage structures, slope intercepts, existing right-of-way and easements, and proposed temporary construction easements. The plans will identify areas of potential private utility conflicts/relocations. Profiles will show existing ground, proposed elevations, grades, vertical curve length and "K" value, and elevations for PVC, PVI, and PVT. The scale of the plan and profile sheets will be 1" = 50' horizontal and 1" = 5' vertical.

#### *2.5 Reference Ties and Bench Marks, G Sheets – 2*

Assemble reference ties to the plan control points, coordinate information for the control points, and the benchmark data used to develop the plans and to be preserved throughout construction of the Project. Centerline alignment information for mainline and the side



roads will also be provided, and existing property monumentation, which is to be preserved during construction, will be tabulated or noted on the G sheets.

*2.6 Preliminary Staging and Traffic Control/Detour, J Sheets – 6*

Prepare preliminary plans for the construction staging and traffic control/detour design. Preliminary plan sheets will consist of staging and traffic control notes, typical sections, and an overall plan depicting the various construction stages. The scale of the overall construction staging plans will be 1" = 100'.

*2.7 Preliminary Mainline and Intersection Geometrics, L Sheets – 5*

Prepare preliminary geometric plans for NE 36<sup>th</sup> St. and NE Delaware Ave. Design vehicle turning movements, back-of-curb radii and geometric break points will be shown. Drainage indication arrows and slope information will also be shown to help identify proposed drainage patterns. The scale of the mainline and intersection geometric plans will be 1" = 20'.

*2.8 Preliminary Traffic Signal Plans, N Sheets – 8*

Prepare preliminary traffic signal plans for the NE 36<sup>th</sup> St. and NE Delaware Ave. intersection using standards of the CLIENT, Iowa DOT, and the Manual on Uniform Traffic Control Devices (MUTCD). The preliminary plans will depict signal layout, conduit layout, major equipment, signal poles, signal heads, and traffic signal interconnect.

*2.9 Preliminary Cross Sections, W and X Sheets – Up to 90 Sections*

Generate cross section sheet files for NE 36<sup>th</sup> St. and NE Delaware Ave. The cross sections will show the existing ground elevations as well as the proposed grading, including foreslopes and backslopes, ditches, pavement reconstruction, and other pertinent information. Additional cross sections at critical right-of-way locations and terrain breaks will be included, as necessary. The spacing and scale for the plotted cross sections will be 50 feet and 1" = 10' horizontal and vertical, respectively.

**E.3 Preliminary Opinion of Probable Construction Cost**

Prepare a preliminary Opinion of Probable Construction Cost for the Project. The preliminary construction cost opinion will be based on preliminary estimated quantities for major construction items (e.g. pavement, subbase, earthwork, drainage, traffic signals, etc.). Detailed quantity takeoffs will not be developed for the preliminary construction cost opinion. Historical unit price data will be provided by the CLIENT and Iowa DOT.

**E.4 Field Review**

A field review will be held with the CLIENT's staff to discuss key issues and design concepts, including geometric and utility improvements, drainage, pedestrian and bicycle accommodation, traffic control/stage construction, and right-of-way. The review will determine the completion of the preliminary design, identify needed adjustments to minimize potential impacts, and confirm the proposed staging and traffic control plans. Results of the field review and proposed revisions to the preliminary design will be documented in a technical memorandum, which will be submitted to the CLIENT. It is assumed two (2) project team members of the COMPANY will participate in the Field Review.

## **Task F – Final Design**

Based upon the approved preliminary design, field review, preliminary design plan review comments, and meetings with the CLIENT, the COMPANY shall subsequently proceed with final design and the preparation of check and final design plans. The deliverables for the final design phase include check plans and final plans in accordance with Iowa DOT Local Systems requirements and a final opinion of probable construction cost. The work tasks to be performed by the COMPANY under Final Design shall consist of the following:

### **F.1 Final Design**

#### ***1.1 Detailed Design – Roadway***

Refine the roadway design developed during the preliminary design phase. Complete the design for the typical cross sections, horizontal alignments, vertical profiles, roadway cross sections, and construction details for mainline and side roads.

#### ***1.2 Detailed Design – Intersections***

Refine the design for the intersections developed during the preliminary design phase. Determine final geometrics, cross slopes, pavement elevations and jointing details and verify drainage for the NE Raintree Dr., NE Delaware Ave., NE Milan Ave., and NE Otter Creek Dr. intersections with NE 36<sup>th</sup> St.

#### ***1.3 Detailed Design – Storm Sewer and Drainage***

Refine the storm sewer and drainage design developed during the preliminary design phase. Finalize type, size, and location of storm sewers, ditches, culvert extensions, and other storm drainage-related facilities on the Project. Also, verify critical form grade and flowline elevations of existing and proposed storm sewer structures and pipes. It is assumed approximately 40 new storm sewer structures (assume 35) or modifications (assume 5) of existing structures will be required. This task includes the detailed design of the storm water quality features to be incorporated in the Project, as directed by the CLIENT. It is assumed basic storm water quality features such as bio-swales and bio-retention basins will be used.

#### ***1.4 Detailed Design – Erosion Control***

Determine the final locations and types of erosion control measures required during grading and paving construction. Prepare a Storm Water Pollution Prevention Plan (SWPPP).

#### ***1.5 Detailed Design – Traffic Signals***

Refine the traffic signal design developed during the preliminary design phase. Determine the final traffic signal layout, signal timings, wiring, phasing, and bicycle/pedestrian accommodations. The final traffic signal design will be based on the assumptions stated in the Preliminary Traffic Signal Design task. This task includes developing a Public Interest Finding (PIF) to justify the CLIENT furnishing proprietary equipment for the new traffic signal system. This task also includes coordinating with the utility company on supplying power to the new traffic signal system.

#### ***1.6 Detailed Design – Staging and Traffic Control/Detour Plan***

Refine the construction staging and traffic control/detour plan developed during the preliminary design phase. The final construction staging and traffic control plan will include provisions for maintaining through traffic and managing access to adjacent



properties during each phase of construction. It is assumed two-way, two-lane through traffic will be maintained on NE 36<sup>th</sup> St. and NE Delaware Ave., and side roads with alternate access can be closed at NE 36<sup>th</sup> St., as necessary, during construction. This task includes designing the permanent pavement markings and traffic signing in accordance with standards of the CLIENT, Iowa DOT and MUTCD.

#### *1.7 Detailed Design – Joint Utility Trench*

Based upon direction from the CLIENT and utility company representatives, refine the joint utility trench design developed during the preliminary design phase. Finalize typical sections, horizontal alignments, vertical profiles, and construction details for the joint utility trench. Also, verify horizontal and vertical clearances from existing and proposed utility facilities. It is assumed a joint utility trench detailed design will be developed for the NE 36<sup>th</sup> St. corridor only. This task includes one (1) meeting (in Ankeny, IA) with the CLIENT and utility company representatives during the final design phase to discuss the joint utility trench design. It is assumed two (2) project team members of the COMPANY will participate in the meeting.

#### *1.8 Detailed Design – Earthwork Adjustments*

Determine final earthwork quantities from the cross sections and complete template adjustments. This task includes determining final earthwork quantities for the sideroad connections.

#### *1.9 Detailed Design – Final Bid Items and Quantity Calculations*

Determine the final bid items, using the standard bid items provided by the Iowa DOT. Prepare and verify quantity calculations for bid items. This task includes completing the BIAS2000 and Trns\*Port quantity files for the Iowa DOT.

### **F.2 Check and Final Plan Preparation**

The number of plan sheets and cross sections stated herein are considered estimates. The actual number of plan sheets and cross sections in the Check and Final Plans may vary. The scales of the applicable plan sheets stated herein are assumed such that the appropriate level of detail is provided on the sheets. The scales will be verified with the CLIENT during preparation of the Check Plans.

#### *2.1 Final Title and General Information, A Sheets – 3*

Complete drafting of final title and general information sheets using standard formats.

#### *2.2 Final Typical Cross Sections and Details, B Sheets – 8*

Complete drafting of final grading and paving typical cross sections for mainline and side roads. Include standard and modified design details to be used for the improvements.

#### *2.3 Final Quantity Tabs., General Notes and Est. Reference Notes, C Sheets – 16*

Prepare plan sheets that show specific design information needed for the project. This includes final quantity tabulations, standard notes and estimate reference information.

#### *2.4 Final Plan and Profiles, D and E Sheets – 5*

Complete drafting of final plan and profile sheets for mainline and side roads, including adding the detail information required for plan approvals, permitting, and construction of the proposed improvements. The drawings will show existing topography and utilities and

proposed roadway and utility improvements. The plans will include existing and proposed drainage structures, slope intercepts, existing right-of-way and easements, and proposed temporary construction easements. Profiles will show existing ground, proposed elevations, grades, vertical curve length and "K" value, and elevations for PVC, PVI, and PVT. The scale of the plan and profile sheets will be 1" = 50' horizontal and 1" = 5' vertical.

#### *2.5 Final Staging and Traffic Control/Detour, J Sheets – 13*

Prepare final plans for the construction staging and traffic control/detour measures to be implemented during construction. Final plan sheets will consist of staging and traffic control notes; an overall plan depicting the various construction stages; typical staging sections and details; NE 36<sup>th</sup> St. detour route information (if applicable); and detailed traffic control plans including temporary pavement markings and signing details and temporary traffic control devices to maintain traffic through the construction area. The scale of the detailed traffic control plans will be 1" = 50'.

#### *2.6 Final Pavement Markings and Traffic Signing, K Sheets – 2*

This task consists of developing and drafting the final plans for the permanent pavement markings and traffic signing. The scale of these plan sheets is assumed to be 1" = 50'.

#### *2.7 Final Mainline and Intersection Details, L Sheets – 10*

Complete drafting of final mainline and intersection paving sheets. Final plan sheets will include detailed geometric layout and staking information, pavement elevations, slope information, jointing details and edge return profiles. Proposed utility improvements will also be shown on these sheets. The scale of these plan sheets will be 1" = 20' for the roadway geometric staking detail sheets and 1" = 10' for the intersection geometric staking detail sheets.

#### *2.8 Final Storm Sewer Plan, Profiles and Details, M Sheets – 6*

Develop storm sewer plan and profile sheets for NE 36<sup>th</sup> St. and NE Delaware Ave. Final storm sewer structure location and elevation information, pipe lengths, grades, and material will be shown on the sheets. Final storm water quality feature locations and design information will also be shown on the sheets. Design details for the modification of existing and proposed storm sewer structures and pipes and the storm water quality features will be provided. The scale of the storm sewer plan and profile sheets will be 1" = 50' horizontal and 1" = 5' vertical.

#### *2.9 Final Traffic Signal Plans, N Sheets – 10*

Prepare final signal layout, wiring diagrams, phasing diagrams, details, quantities, recommended opening day signal timings, plans and special provision. It is assumed one (1) special provision will be required for installation of the traffic signal video detection system. Opening day signal timings will be based on the available opening day traffic projections for the intersection. It is recommended the opening day signal timings be reviewed and refined after the area roadways are operating in post-construction conditions and traffic volume fluctuations have dissipated. The review and refinement of the traffic signal timings are not included in the Scope of Services.

*2.10 Final Joint Utility Trench Plan, Profiles and Details, O Sheets – 7*

Develop joint utility trench plan and profile sheets for NE 36<sup>th</sup> St. Final joint utility trench location and elevation information and lengths will be shown on the sheets. Finish drafting of typical cross sections and design details for the joint utility trench. The scale of the joint utility trench plan and profile sheets will be 1" = 20' horizontal and vertical.

*2.11 Final Soils Profiles, Q Sheets – 4*

Symbolize results of the drilling and testing and add the information to digital drawings to create soil profiles for NE 36<sup>th</sup> St. and NE Delaware Ave. Subcontract with Terracon Consultants, Inc. to provide the soils data and Q sheets. Refer to Task H for additional information.

*2.12 Final Earthwork Tabulations, T Sheets – 2*

Compile and tabulate earthwork quantities and adjustments for NE 36<sup>th</sup> St. and NE Delaware Ave.

*2.13 Final Special Construction Details, U Sheets – 4*

Finish drafting of final miscellaneous details not included in the other items. Included are items such as special grading details, special paving details, the erosion control plan, and other required special details for completion of the Project. This task also includes developing the retaining wall sheet, and the final drafting of the plan and elevation views and construction details of the assumed one (1) "non-structural" retaining wall.

*2.14 Final Cross Sections, W and Y Sheets – Up to 100 Sections*

Develop final cross section sheet files for NE 36<sup>th</sup> St. and NE Delaware Ave. Additional cross sections at critical locations (e.g. taper points and end of radii returns), as identified in the preliminary design phase, will be included. The final cross sections will show the existing ground elevations as well as the proposed grading, including foreslopes and backslopes, ditches, pavement reconstruction, and other pertinent information. The spacing and scale for the plotted cross sections will be 50 feet and 1" = 10' horizontal and vertical, respectively.

*2.15 Final Design Plans*

Respond to the CLIENT's and Iowa DOT's review comments on the Check Plans and make appropriate revisions. It is assumed a single set of coordinated review comments will be provided by the CLIENT and Iowa DOT. Compile final design plan sheets, cross sections, detailed quantities, and special provision into one (1) bid package and submit to the CLIENT and Iowa DOT for final review and letting.

**F.3 Final Opinion of Probable Construction Cost**

Prepare a final Opinion of Probable Construction Cost for the Project. The final opinion of probable construction cost will be submitted with the Final Design plans.

## **Task G – Utility Coordination and Permits**

### **G.1 Utility Coordination**

The COMPANY will identify potential utility conflicts/relocations based on the preliminary design and existing survey information. The COMPANY will send copies of preliminary and final design plans via certified mail to utility companies for advance coordination; maintain a utility correspondence log; and attend utility coordination meetings in Ankeny, IA with the CLIENT's staff and representatives from the various utility companies. The purpose of the meetings will be to advise the utility companies of the nature and extent of the proposed improvements and potential conflicts with existing or proposed utility systems. The CLIENT will be responsible for establishing the time and location for the meetings and notifying the applicable utility companies. Two (2) utility coordination meetings (one each during the preliminary and final design phases) are anticipated and included in the scope of services. Two (2) project team members of the COMPANY will participate in the utility coordination meetings. This task also includes reviewing the plans for MidAmerican Energy's separate lighting project for the NE 36<sup>th</sup> St. corridor and plotting the proposed light pole locations on the final design plans for informational purposes. The review will be limited to evaluating whether the proposed lighting improvements are coordinated with the proposed roadway and utility improvements.

### **G.2 Permits**

Participate in consultations with authorities having jurisdiction to approve the design of the Project and assist the CLIENT in preparing the required permit applications. Due to the RCB culvert extension (separate CLIENT project) and grading improvements, it is assumed a Section 404/401 joint permit will be required from the U.S. Army Corps of Engineers (USACE) and Iowa Department of Natural Resources (IaDNR), and a Floodplain Development permit will be required from IaDNR. The CLIENT will prepare the Section 404/401 joint and Floodplain Development permit applications. The CLIENT will also prepare the IaDNR Storm Water (NPDES) permit applications for the roadway reconstruction project and RCB culvert extension project. Any fees for the permits, licenses or other costs associated with permits and approvals shall be the responsibility of the CLIENT. The COMPANY will provide technical criteria, written descriptions and design data for the CLIENT's use in filing applications for permits.

## **Task H – Geotechnical Engineering (Terracon Consultants, Inc.)**

The COMPANY will subcontract with Terracon Consultants, Inc. (Terracon) for the purpose of performing basic geotechnical investigation and engineering for the Project. Terracon will perform subsurface exploration consisting of 11 soil borings, 10 to 30 feet deep along the existing NE 36<sup>th</sup> St. (9 borings) and NE Delaware Ave. (2 borings) corridors at approximately 300 feet intervals. One (1) soil boring will also be obtained for the proposed Twin 10' X 8' RCB extension at approximately Sta. 68+60 (Lt.) and will be used by the CLIENT for their separate RCB extension project in 2011.

Laboratory tests will be conducted in accordance with the referenced ASTM standards, and certified and calibrated equipment per ASTM and AASHTO standards will be used. A geotechnical report will be prepared describing subsurface conditions, documenting the analysis and evaluation of the test data, and providing recommendations regarding earthwork, subgrade preparation, and pavement support for the Project. Simplified soils



information, including soil stratification, will be added to digital drawings to create four (4) soils profile (Q) sheets for NE 36<sup>th</sup> St. (3 sheets) and NE Delaware Ave. (1 sheet). A qualified Engineer, licensed in the State of Iowa will review and certify test results, conclusions, recommendations, and Q sheets.

Terracon will conduct the soil borings at locations determined by Terracon with input from the COMPANY. Upon completion of the soil borings, the site will be cleaned and the holes filled so as to adhere to known safety regulations. The soil boring locations will be marked in the field by the survey crew.

### **Task I – Real Estate Services**

The COMPANY will provide the Real Estate Services required for the temporary construction easements and serve as the professional representative for the CLIENT. The COMPANY will coordinate and manage the temporary easement acquisition process as an integral part of the management and scheduling of the project. Due to the nature of the proposed improvements and based on the assumption that no permanent acquisition of right-of-way (fee title or permanent easement) will be required, it is assumed reports of record ownership and liens (i.e. title searches), appraisals, review appraisals, and closing services will not be required. Also, it is assumed the required temporary easements will be readily obtained and eminent domain services will not be required. The COMPANY will coordinate the subconsultant involved in the Real Estate Services required for the temporary construction easements.

#### **I.1 Preparation of Temporary Easement Exhibits and Descriptions**

This task consists of the preparation of temporary easement area exhibits and descriptions for the temporary construction easements to be acquired for the Project. It is assumed six (6) "Of" description temporary construction easements will be required. It is assumed the temporary construction easement exhibits and descriptions will not need to be certified.

#### **I.2 Compensation Estimates**

The COMPANY shall obtain the services of an independent fee appraiser for the purpose of determining lease interests, fair market value of land and improvements to be acquired, and damages as a result of the proposed improvements. The appraiser shall be a qualified subconsultant approved by the CLIENT. It is anticipated Myers & Associates will be the subconsultant used for this work. It is assumed compensation estimates will be prepared for six (6) parcels.

#### **I.3 Temporary Easement Negotiations/Acquisitions**

The COMPANY shall obtain the services of a land acquisition agent for the purpose of negotiating and acquiring the temporary construction easements. The land acquisition agent shall be a qualified subconsultant approved by the CLIENT. It is anticipated Myers & Associates will be the subconsultant used for this work. The subconsultant shall provide proof of valid Iowa licenses and proof of required errors and omissions insurance, and shall document in the parcel files that the disclosure of agency was made. The subconsultant will document discussions with property owners in the parcel files.

The subconsultant shall prepare the acquisition contracts and other documents necessary to secure the required temporary easements in compliance with state and federal law.

The subconsultant shall deliver to each owner of interest, including tenants, acquisition brochures, offers to purchase, proposed contracts, and answer acquisition related questions from each owner of interest. The subconsultant shall not offer an owner of interest an amount in excess of the approved appraisal without the prior approval of the CLIENT.

Upon successful completion of negotiations on a parcel, the subconsultant shall audit the contract for correctness and verify appropriate interests were acquired from the proper parties prior to submission to the CLIENT for approval.

When an agreement cannot be reached with an owner of interest through normal negotiation procedures, the subconsultant shall review the parcel giving full consideration to pertinent data and make a recommendation as to whether a settlement should be attempted at an amount in excess of the original offer or whether to acquire the parcel by eminent domain/condemnation proceedings. Three (3) meetings with the property owner by the negotiator without progress toward a settlement shall constitute non-agreement through normal negotiation procedures.

It is assumed 12 hours of time for each of the six (6) temporary easements (estimated total of 72 hours) will be required for negotiations and acquisition. If additional time is required for negotiations and acquisitions, the estimated fee will need to be revised accordingly.

#### **Task J – Environmental Services**

With concurrence from the Iowa DOT and FHWA, this Scope of Services has been prepared to assume an Individual Countersigned Categorical Exclusion (CE) category of environmental documentation is required for the proposed project. Each of the tasks identified below are necessary for the COMPANY to help the CLIENT gain approval of an Individual Countersigned CE document. The Iowa DOT's updated templates and regulatory guidance updates will be used to prepare the Individual Countersigned CE document.

##### **J.1 Early Agency Coordination**

The COMPANY will coordinate with other local, county, regional, state, and federal agencies as required. Agencies will be provided an opportunity to comment on the project's range of alternatives, environmental impacts, and preferred alternative through the agency scoping process and follow-up coordination as needed. The COMPANY will make personal or written contact with the following agencies as necessary.

- U.S. EPA – National Environmental Policy Act Team – Region VII
- U.S. DOI – Office of Environmental Policy and Compliance – Regional Office
- U.S. DOI – US Fish and Wildlife Service – Rock Island



- U.S. DOI – National Park Service (as necessary when NPS lands involved)
- U.S. Army Corps of Engineers – Rock Island District
- U.S. Army Corps of Engineers – Omaha District
- NRCS – State conservationist
- U.S. Department of Housing and Urban Development (as necessary in urban areas)
- Federal Emergency Management Agency (as necessary when floodplains are involved)
- Federal Transit Administration (as necessary)
- State Historical Society of Iowa (CC as FYI only)
- Iowa DNR – Environmental Services Division (need to submit 5 copies)
- Iowa DNR – to verify 6(f)

Other local agencies as necessary:

- Polk County Conservation Board
- Des Moines Area Metropolitan Planning Organization
- City of Ankeny – Planning and Engineering staff
- Historical Societies
- Local Iowa DNR office
- Local NRCS Conservationist (relates to USDA Form 1006)
- Iowa Soil and Water Conservation Districts (if Ag land is present)
- Iowa Department of Agriculture and Land Stewardship (if Ag land is present)

Iowa DOT / FHWA:

- Jerry Lavine – District 1 Local Systems (for utility notification)
- Cultural Resource Section (for Tribal notification)
- NEPA Document Manager – copy of Initial Coordination packet along with distribution list
- FHWA TE – copy of IC packet along with distribution list (CC as FYI only)

## **J.2 Environmental Data Collection**

### *2.1 Develop Land Use Inventory*

The COMPANY will field review the project area to update land use information regarding potential historic properties, commercial uses, residential uses, industrial uses, park and recreational uses, community buildings, parking, and special uses.

### *2.2 Review Recent Local and Regional Reports, Plans, and Documents*

The COMPANY will collect material that supports the CE. This will include information on socio-economics, community services, emergency services, contaminated sites, commercial/ industrial/ residential development plans, agricultural preservation plans (if any), natural area or conservancy plans, groundwater and drinking water supply information, and water resource plans and standards. In addition, documents will provide background information regarding previous commitments and plans including activities that need to be considered in the evaluation of cumulative impacts on the study area.

### *2.3 Public/Special Use Lands*

The COMPANY will identify and locate potential public use recreational areas, bike trails, hiking trails, or other land uses that may be subject to Section 4(f) or Section 6(f) requirements.

### *2.4 Wetland Inventory and Waters of the U.S.*

The COMPANY will inventory existing wetlands to verify National Wetland Inventory maps and Department of Natural Resources (DNR) wetland mapping and identify wetland areas that satisfy the basic federal jurisdictional criteria. If field delineation of wetlands for the roadway reconstruction project or RCB culvert extension is requested by the CLIENT, it will be considered Extra Work. Field delineation of wetlands is not included in this Scope of Services.

### *2.5 Historic and Archaeological Resources*

The COMPANY will request a review from the Iowa DOT's Cultural Resources staff to assess the need for a cultural resources survey. The Iowa DOT Cultural Resources staff may complete an initial evaluation themselves or ask the COMPANY to contact the University of Iowa's Highway Archaeology Program Transportation Enhancement Staff to complete the initial evaluation. If the Iowa DOT Cultural Resources staff determines archaeological/historical (cultural) resources in the area may be affected by the proposed project, then the COMPANY, if directed by the CLIENT to perform Extra Work, will contract for services with a cultural resources subconsultant prequalified with the Iowa DOT to conduct a literature survey and field survey for property and/or resources in the area of potential effect that may be defined as "historic property" in accordance with the National Historic Preservation Act of 1966 (NHPA). A cultural resources survey is not included in this Scope of Services.

### *2.6 Regulated Material Sites*

The COMPANY will conduct a literature search, agency survey, individual interviews, and field reconnaissance to identify the presence of potentially regulated material sites in the area of potential effect. The COMPANY will utilize reference lists identifying known regulated materials such as the State's contaminated sites list, the DOT's highway spill report, and US EPA's Comprehensive Environmental Response, Compensation, and Liability Information System or Resource Conservation and Recovery Act information. In addition, the COMPANY will contact local units of government including public works, police, fire, and planning offices to inquire about potential sites (i.e. abandoned landfills, dumps, industrial properties, etc.) if needed. The COMPANY will conduct interviews with individuals who can provide expanded information about the location and activities at potential sites if needed. The COMPANY will conduct a visual reconnaissance near the corridor to locate potential contaminated sites (i.e. gas stations, aboveground tanks, industrial properties, landfills, sites with suspected underground storage tanks, etc.). Unless formal access agreements with owners of private property are in place, the site reconnaissance will consist of an offsite "windshield" survey or survey from publicly accessible areas. Specific investigative emphasis will be placed on those properties that could be acquired because of right-of-way acquisition. The results of the contaminated sites investigation will be documented in a supporting report memorandum with a summary of that data presented in the CE for the purpose of impact analysis. This Scope of Services does not include a separate Phase I Environmental Site Assessment (ESA).

### *2.7 Cemeteries*

The COMPANY will locate known cemeteries within the area of potential effect.

### *2.8 Soils and Geology*

The COMPANY will gather and evaluate existing information on the project site and make recommendations prior to preliminary design on where soil borings should be taken.

### *2.9 Biological Resources*

If early agency comments are received, the COMPANY will coordinate with the Iowa DNR and Fish & Wildlife Service to address potential impacts to listed species. The COMPANY will prepare background data collection on Federal and State listed species using USGS quadrangle maps, soil surveys, public GIS data, water quality data, and other information will be collected.

### *2.10 Section 4(f) Decision Process and Evaluation*

Because the CE will be countersigned by FHWA, and FHWA provides a final determination on the applicability of Section 4(f), and because known Section 4(f) resources occur in the project area, the COMPANY will prepare a written summary following the Iowa DOT's five-step decision process to determine if a Section 4(f) "use" occurs. Section 23, CFR 771.135(p) states that a "use" of a Section 4(f) property is one where land acquisition or temporary easement will result in permanent adverse physical impacts by reverting the use to a transportation-related facility. There is not a "use" when the Section 4(f) property is located within a temporary easement if the "use" duration is temporary, the scope of work is minor, there are no anticipated permanent adverse physical impacts, property is returned to a condition at least as good as it was previously, and there is documented agreement from the jurisdictional officials.

If the five-step determination process requires the preparation of a separate Section 4(f) evaluation, including an alternatives analysis, an avoidance or reduction of impact, and mitigation analysis, the preparation of this item shall be considered Extra Work by the COMPANY and is not included in this Scope of Services.

## **J.3 Environmental Impact Analysis**

### *3.1 Land Use and Related Impacts*

The impact of the project upon land use will be evaluated. The COMPANY will assess the impact of the project on potential historic properties, commercial uses, residential uses, industrial uses, park and recreational uses, community buildings, parking, and special uses.

### *3.2 Socioeconomic Impact*

The COMPANY will identify impacts on community services, community cohesion, impacts on business caused by access changes, changes in traffic flow, and impacts on tax base. In addition, the COMPANY will analyze indirect effects of roadway improvements on business and effects on future land use and development potential. The COMPANY will assess the proposed action impact on the local and regional economy both during and after construction.

### *3.3 Commercial and Industrial Impacts*

The COMPANY will assess existing commercial and industrial activity in the project area. The proposed action's impact on commercial and industrial activity will be evaluated in

terms of access changes and ease of goods movement both during and after construction will be evaluated. The analysis will consider the features of the project that might affect the values of adjacent properties (e.g., proximity, noise, capacity).

#### *3.4 Community and Residential Impacts*

The COMPANY will assess existing and proposed residential areas and community setting in the project area. The COMPANY will evaluate the proposed project's impact on residences, community services, community facilities, and neighborhoods both during and after construction. The environmental impact analysis will address potential impacts to other groups that may require special consideration with respect to travel patterns and access to jobs, schools, churches, parks, hospitals, shopping, and community services. These other groups may include school-age children, elderly, pedestrians, and bicyclists.

#### *3.5 Environmental Justice*

The COMPANY will assess the project's impact on low-income and minority populations as required by the Executive Order (EO) on Environmental Justice (EO 12898). The environmental justice assessment will be based on income and race information from the 2000 U.S. Census. Additional information on race will be obtained from project team coordination with local residents and officials. The discussion will indicate if low-income or minority communities will be affected by the action and whether the impacts to these communities will be disproportionately adverse. Potential mitigation will be presented as appropriate.

#### *3.6 Wetlands and Waters of the U.S.*

If wetland impacts are expected, the COMPANY will evaluate wetland impacts in accordance with outside agency procedures for implementing wetland presidential orders (practicable alternatives, mitigation measures, etc.). Obtaining a Nationwide or Individual 404 Permit and development of a mitigation plan is not included in this Scope of Services.

#### *3.7 Storm Water Runoff*

The COMPANY will evaluate measures to control storm-water runoff to receiving waters in the project area and evaluate impacts to the receiving waters from run-off.

#### *3.8 Threatened or Endangered Species*

The COMPANY will undertake initial coordination with U.S. Fish and Wildlife Service (FWS) and DNR Bureau of Endangered Resources to determine if threatened or endangered species or distinct habitats are present in the project area. The initial coordination will consist of sending a letter to these agencies requesting information on threatened or endangered resources. Additional coordination with these agencies regarding endangered or threatened species will be considered Extra Work. The COMPANY will also conduct a field review for species that could exist in the area of potential affect. The field review will consist of a visual survey to identify habitat characteristics associated with the species of concern.

#### *3.9 Noise Analysis*

The proposed project will increase the vehicular traffic capacity of NE 36<sup>th</sup> Street. The proposed project should improve intersection safety and roadway geometry, and is expected to cause a change in existing traffic volumes and vehicle mix and may move roadway noise sources nearer to receptors in the areas of the proposed improvements;



therefore, it is assumed a quantitative noise analysis is necessary. The COMPANY will use FHWA's Traffic Noise Model (TNM) to conduct a noise study for the project study area. Noise sensitive receptor locations will be identified and modeled for existing, no build, and build alternative conditions. Noise monitoring will be conducted to verify the model's results. The COMPANY will provide the results of the noise study in a technical memorandum. The completion of a noise barrier analysis and additional noise analysis work resulting from updated FHWA regulatory changes that will be effective in July 2011 (the effects of which are unknown on this scope at this time) are not included in this Scope of Services.

#### *3.10 Air Quality*

Because the region is in attainment for air quality goals and the project is included in an approved transportation plan (i.e. STIP), an air analysis is not required and a statement will be made in the CE to that effect. An air quality analysis, if required, is not included in this Scope of Services.

#### *3.11 Regulated Materials and Hazardous Waste*

The COMPANY will evaluate proposed property acquisition and facility improvements in relationship to existing data regarding potentially regulated material sites. The COMPANY will specifically note areas of concern with regard to potential construction activities and will evaluate the potential need for soil management plans for construction activities. Development of construction soil management plans is not included in this Scope of Services.

#### *3.12 Construction/Detour Impacts*

The COMPANY will assess the impact of construction and detour impacts on the project area and on construction workers, including access to facilities and services; economic impacts; noise; vibration; and contaminated sites and develop mitigation recommendations as required.

#### *3.13 Cumulative Impacts*

The COMPANY will provide an assessment of the overall cumulative impact of the proposed action and the consequences of subsequent related actions. The purpose of this evaluation is to determine that potential cumulative impacts have been evaluated and are not considered to be collectively significant.

#### *3.14 Consistency*

The COMPANY will prepare an assessment to determine that the proposed project will be consistent with federal, state or local law; or administrative determination relating to the environment; and with community plans.

### **J.4 NEPA Environmental Document**

The COMPANY will prepare an Individual Countersigned Categorical Exclusion (CE) document. The brief, narrative-style CE will follow the content requirements of the National Environmental Policy Act and FHWA Iowa Division office guidelines for preparation of environmental documents. The CE will evaluate the preferred alternative.

A document that supports the narrative-style CE will be drafted by the COMPANY. The supporting documentation for the CE will describe additional alternatives that were developed but not selected.

The COMPANY will prepare an electronic review copy of the CE for Iowa DOT review along with one (1) paper hard copy. After addressing Iowa DOT comments, the COMPANY will submit the preliminary CE to the Iowa DOT for approval. The COMPANY will prepare requested copies of the CE for circulation to agencies, local officials, other interested parties, and for local repositories.

### **3.0 Deliverables and Schedules Included in this Contract**

#### **List of Project Deliverables**

1. One (1) Right-of-entry letter (mailings by the CLIENT)
2. One (1) property owner and project stakeholder contact list
3. Traffic signal warrant analysis memorandum
4. Iowa DOT Concept Statement
5. Section 4(f) determination process memorandum
6. Individual Countersigned Categorical Exclusion (subject to Iowa DOT and FHWA approval)
7. One (1) public information meeting (PIM) notification letter (mailings by the CLIENT)
8. PIM exhibit (assume one (1) scroll display)
9. Preliminary, Check and Final Plans in Iowa DOT and 11" X 17" formats (refer to Scope of Services for estimated sheet counts and scales)
10. One (1) Special Provision for installation of the traffic signal video detection system
11. One (1) Public Interest Finding memorandum for the CLIENT furnishing proprietary equipment for the new traffic signal system
12. Electronic files of the Final Construction Plans in Adobe Acrobat PDF format and MicroStation V8i format. The intelligent CAD files will include the topographic survey and linework for the planimetrics
13. BIAS 2000/Trns\*Port electronic file for the Iowa DOT
14. Conceptual, preliminary and final opinions of probable construction cost
15. Two (2) utility coordination meeting notification letters (mailings by the CLIENT)
16. Copies of plans for utility coordination (assume 8 copies each of the preliminary and final design plan submittals)
17. Geotechnical report (for the roadway reconstruction project)
18. A maximum of six (6) Compensation Estimates for the temporary construction easements
19. A maximum of six (6) executed temporary easement acquisition contracts with descriptions and exhibits for the temporary construction easements. (Note: If temporary easement agreement cannot be reached for any individual properties, additional compensation or services provided by others would be necessary for the eminent domain or other courses of action to resolve the easement need.)
20. Project Development Certification for the Iowa DOT



### **Project Schedule**

The COMPANY shall complete the scope of services for the Project in accordance with the schedule shown; assuming notice to proceed for professional services is issued by the CLIENT on or before November 15, 2010.

Project Management and Administration -----	Nov. 15, 2010 to Jan. 31, 2012
Survey and Mapping -----	Nov. 15, 2010 to Dec. 31, 2010
Environmental Services and Concept Study -----	Nov. 15, 2010 to Jan. 31, 2011
Preliminary Design and Plans -----	Dec. 1, 2010 to <b>Feb. 28, 2011</b>
Public Involvement -----	Feb. 1, 2011 to Apr. 30, 2011
Utility Coordination and Permitting -----	Feb. 1, 2011 to Sept. 30, 2011
Real Estate Services -----	June 1, 2011 to Sept. 30, 2011
Final Design, Check Plans -----	July 1, 2011 to <b>Sept. 20, 2011</b>
Final Design, Final Plans -----	Oct. 1, 2011 to <b>Oct. 18, 2011</b>

The schedule may adjust slightly, with the goal of meeting a January 18, 2012 Iowa DOT letting date. The schedule assumes timely resolution of project issues that meets the CLIENT's budget constraints is feasible and that the required temporary easements will be readily obtained. If the letting date changes, design and plan production dates would adjust accordingly.

The schedule was prepared to include reasonable allowances for review and approval times required by the CLIENT and public authorities having jurisdiction over the project. It is assumed the review of the Preliminary Design Plans and Check Plans by the CLIENT and Iowa DOT will be completed within ten (10) working days (for each submittal). The schedule shall be equitably adjusted as the project progresses, allowing for changes in the scope of the project requested by the CLIENT or for delays or other causes beyond the control of the COMPANY.

The completion of the project is subject to the review and approval process of agencies beyond the control of the COMPANY. The completion of the project is also subject to influence from the public and political processes. Therefore, completion of the project may occur earlier or later than the schedule shown herein. The COMPANY will perform these services with reasonable diligence and expediency consistent with sound professional practices.

### **4.0 Items not included in Agreement/Supplemental Services**

The following items are not included as part of this agreement:

1. Boundary and legal surveys
2. Borrow area surveys and design
3. Reports of record ownership and liens/title searches
4. Right-of-way or permanent easement acquisition plats and legal descriptions
5. Appraisals, appraisal reviews, closing services, and eminent domain/condemnation services
6. Wetlands delineation and wetlands mitigation plan
7. Cultural Resources investigation and analysis
8. Section 4(f) Evaluation; Section 6(f) Evaluation

9. Hazardous materials investigations and testing
10. Soil management/mitigation plans
11. Geotechnical analysis for the retaining wall system (based on the assumption that the retaining wall will be less than or equal to three (3) feet in height)
12. Geotechnical analysis for the CLIENT's RCB culvert extension project (based on the assumption that if a geotechnical analysis is deemed necessary, it will be completed by the CLIENT)
13. RCB culvert extension design and plan preparation
14. Preparation of IaDNR Storm Water (NPDES) permit applications for roadway reconstruction project and RCB culvert extension project, and the publications of associated Public Notices of Storm Water Discharge in applicable area newspapers
15. Preparation of USACE/IaDNR Section 404/401 (joint) and IaDNR Floodplain Development permit applications
16. Pavement design
17. Structural retaining wall design
18. Traffic counts, operational analysis, crash analysis, traffic forecasts, traffic impact studies, and review/refinement of opening day traffic signal timings
19. Streetscape/landscape architectural design (including irrigation systems and architectural/aesthetic treatments for retaining walls)
20. Photometric analysis and roadway lighting design
21. Water and/or sanitary sewer improvements study, design and plan preparation other than spot relocations and adjustments of utility accesses, hydrants and valves
22. Pink sheets and 1" = 20' scale plats for culverts and storm sewers
23. Coordination and meetings with local interest groups and organizations
24. Funding procurement services (e.g. Special Assessment schedules and services)
25. Bidding services
26. Construction services (e.g. admin., observation, materials testing, and survey/staking)
27. Record drawings
28. Costs associated with project delays/scope changes outside the control of the COMPANY

Supplemental services not included in the agreement can be provided by COMPANY under separate agreement, if desired.

## **5.0 Services by Others**

Terracon Consultants, Inc.: geotechnical engineering. Refer to Task H in the Scope of Services.

Myers & Associates: compensation estimates and temporary easement negotiations/acquisitions. Refer to Task I in the Scope of Services.

## **6.0 Client Responsibilities**

The CLIENT shall provide the COMPANY the following information:

1. Aerial photography, electronic files and control data.
2. Record drawings and other information on existing roadways and utilities within or adjacent to the project corridor.

3. Site plans, subdivision plats and construction plans for both existing adjacent development and proposed development relative to the corridor.
4. Bid tabulations of recent public improvement projects completed by the CLIENT.
5. Other CLIENT records applicable to the execution of the project.
6. GIS map and data including County parcel numbers, names, addresses, etc. to prepare a property ownership drawing and database.
7. Mailings for meetings and a meeting place for the public involvement and utility coordination activities.
8. The CLIENT's standard temporary construction easement purchase agreement form.
9. Preliminary and final design, preliminary plans, and contract documents for the Twin 10' X 8' RCB extension at approximately Sta. 68+60 (Lt.).
10. USACE/IaDNR Section 404/401 (joint) and IaDNR Floodplain Development permit applications. IaDNR Storm Water (NPDES) permit applications for roadway reconstruction project and RCB culvert extension project, and the publications of the associated Public Notices of Storm Water Discharge in applicable area newspapers.
11. Roadway lighting design and plan information for MidAmerican Energy's separate NE 36<sup>th</sup> St. lighting project.
12. Timely review of and written comments on design information and progress drawings.

## **7.0 Professional Services Fee**

### **7.1 Fees**

The fee for services will be based on COMPANY standard hourly rates current at the time the agreement is signed. These standard hourly rates are subject to change upon 30 days' written notice. Non salary expenses directly attributable to the project such as: (1) living and traveling expenses of employees when away from the home office on business connected with the project; (2) identifiable communication expenses; (3) identifiable reproduction costs applicable to the work; and (4) outside services will be charged in accordance with the rates current at the time the work is done.

### **7.2 Invoices**

Invoices for COMPANY's services shall be submitted, on a monthly basis. Invoices shall be due and payable upon receipt. If any invoice is not paid within 15 days, COMPANY may, without waiving any claim or right against the CLIENT, and without liability whatsoever to the CLIENT, suspend or terminate the performance of services. The retainer shall be credited on the final invoice. Accounts unpaid 30 days after the invoice date may be subject to a monthly service charge of 1.5% (or the maximum legal rate) on the unpaid balance. In the event any portion of an account remains unpaid 60 days after the billing, COMPANY may institute collection action and the CLIENT shall pay all costs of collection, including reasonable attorney's fees.

### **7.3 Extra Work**

Any work required but not included as part of this contract shall be considered extra work. Extra work will be billed on a Time and Material basis with prior approval of the CLIENT.

### **7.4 Exclusion**

This fee does not include attendance at any meetings or public hearings other than those specifically listed in the Scope of Services. These work items are considered extra and are billed separately on an hourly basis.

## 7.5 Payment

The CLIENT AGREES to pay COMPANY on the following basis:

Per current Rate Schedule with an estimated fee of \$421,015 including a contingency of \$38,274 (Maximum amount not-to-exceed without prior authorization from CLIENT)

## 8.0 Terms and Conditions

The following Terms and Conditions are incorporated into this AGREEMENT and made a part of it.

### 8.1 Standard of Care

Services provided by COMPANY under this AGREEMENT will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing at the same time and in the same or similar locality.

### 8.2 Entire Agreement

This Agreement, and its attachments, constitutes the entire understanding between CLIENT and COMPANY relating to professional engineering services. Any prior or contemporaneous agreements, promises, negotiations, or representations not expressly set forth herein are of no effect. Subsequent modifications or amendments to this Agreement shall be in writing and signed by the parties to this Agreement. If the CLIENT, its officers, agents, or employees request COMPANY to perform extra work or services pursuant to this Agreement, CLIENT will pay for the additional services even though an additional written Agreement is not issued or signed.

### 8.3 Time Limit and Commencement of Work

This AGREEMENT must be executed within ninety (90) days to be accepted under the terms set forth herein. The work will be commenced immediately upon receipt of this signed Agreement.

### 8.4 Suspension of Services

If the Project or the COMPANY'S services are suspended by the CLIENT for more than thirty (30) calendar days, consecutive or in the aggregate, over the term of this Agreement, the COMPANY shall be compensated for all services performed and reimbursable expenses incurred prior to the receipt of notice of suspension. In addition, upon resumption of services, the CLIENT shall compensate the COMPANY for expenses incurred as a result of the suspension and resumption of its services, and the COMPANY'S schedule and fees for the remainder of the Project shall be equitably adjusted.

If the COMPANY'S services are suspended for more than ninety (90) days, consecutive or in the aggregate, the COMPANY may terminate this Agreement upon giving not less than five (5) calendar days' written notice to the CLIENT.

If the CLIENT is in breach of this Agreement, the COMPANY may suspend performance of services upon five (5) calendar days' notice to the CLIENT. The COMPANY shall have no liability to the CLIENT, and the CLIENT agrees to make no claim for any delay or damage as a result of such suspension caused by any breach of this Agreement by the CLIENT. Upon receipt of payment in full of all outstanding sums due from the CLIENT, or curing of such other breach which caused the COMPANY to suspend services, the COMPANY shall resume services and there shall be an equitable adjustment to the remaining project schedule and fees as a result of the suspension.

### 8.5 Book of Account

COMPANY will maintain books and accounts of payroll costs, travel, subsistence, field, and incidental expenses for a period of five (5) years. Said books and accounts will be available at all reasonable times for examination by CLIENT at the corporate office of COMPANY during that time.

### 8.6 Insurance

COMPANY will maintain insurance for claims under the Worker's Compensation Laws, and from General Liability and Automobile claims for bodily injury, death, or property damage arising from the negligent performance by COMPANY's employees of the functions and services required under this Agreement.



8.7 Termination or Abandonment

Either party has the option to terminate this Agreement. In the event of failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party, then the obligation to provide further services under this Agreement may be terminated upon seven days written notice. If any portion of the work is terminated or abandoned by CLIENT, the provisions of this Schedule of Fees and Conditions in regard to compensation and payment shall apply insofar as possible to that portion of the work not terminated or abandoned. If said termination occurs prior to completion of any phase of the project, the fee for services performed during such phase shall be based on COMPANY's reasonable estimate of the portion of such phase completed prior to said termination, plus a reasonable amount to reimburse COMPANY for termination costs.

8.8 Waiver

COMPANY's waiver of any term, condition, or covenant or breach of any term, condition, or covenant, shall not constitute a waiver of any other term, condition, or covenant, or the breach thereof.

8.9 Severability

If any provision of this Agreement is declared invalid, illegal, or incapable of being enforced by any Court of competent jurisdiction, all of the remaining provisions of this Agreement shall nevertheless continue in full force and effect, and no provision shall be deemed dependent upon any other provision unless so expressed herein.

8.10 Successors and Assigns

All of the terms, conditions, and provisions hereof shall inure to the benefit of and be binding upon the parties hereto, and their respective successors and assigns, provided, however, that no assignment of this Agreement shall be made without written consent of the parties to this Agreement.

8.11 Third-Party Beneficiaries

Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the CLIENT or the COMPANY. The COMPANY's services under this Agreement are being performed solely for the CLIENT's benefit, and no other party or entity shall have any claim against the COMPANY because of this Agreement or the performance or nonperformance of services hereunder. The CLIENT and COMPANY agree to require a similar provision in all contracts with contractors, subcontractors, subconsultants, vendors and other entities involved in this project to carry out the intent of this provision.

8.12 Governing Law and Jurisdiction

The CLIENT and the COMPANY agree that this Agreement and any legal actions concerning its validity, interpretation and performance shall be governed by the laws of the State of Iowa without regard to any conflict of laws provisions, which may apply the laws of other jurisdictions.

It is further agreed that any legal action between the CLIENT and the COMPANY arising out of this Agreement or the performance of the services shall be brought in a court of competent jurisdiction in the State of Iowa.

8.13 Dispute Resolution

Mediation. In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the CLIENT and COMPANY agree that all disputes between them arising out of or relating to this Agreement shall be submitted to non-binding mediation unless the parties mutually agree otherwise. The CLIENT and COMPANY further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with subcontractors, sub-consultants, suppliers or fabricators so retained, thereby providing for mediation as the primary method for dispute resolution between the parties to those agreements.

Arbitration. In the event the parties to this Agreement are unable to reach a settlement of any dispute arising out of the services under this Agreement, involving an amount of less than \$50,000, in Mediation, then such disputes shall be settled by binding arbitration by an arbitrator to be mutually agreed upon by the parties, and shall proceed in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect. If the parties cannot agree on a single arbitrator, then the arbitrator(s) shall be selected in accordance with the above-referenced rules.

8.14 Attorney's Fees

If litigation arises for purposes of collecting fees or expenses due under this Agreement, the Court in such litigation shall award reasonable costs and expenses, including attorney fees, to the party justly entitled thereto. In awarding attorney fees, the Court shall not be bound by any Court fee schedule, but shall, in the interest of justice, award the full amount of costs, expenses, and attorney fees paid or incurred in good faith.

8.15 Ownership of Instruments of Service

All reports, plans, specifications, field data, field notes, laboratory test data, calculations, estimates and other documents including all documents on electronic media prepared by COMPANY as instruments of service shall remain the property of COMPANY. COMPANY shall retain these records for a period of five (5) years following completion/submission of the records, during which period they will be made available to the CLIENT at all reasonable times.

8.16 Reuse of Documents

All project documents including, but not limited to, plans and specifications furnished by COMPANY under this project are intended for use on this project only. Any reuse, without specific written verification or adoption by COMPANY, shall be at the CLIENT's sole risk, and CLIENT shall defend, indemnify and hold harmless COMPANY from all claims, damages and expenses including attorney's fees arising out of or resulting therefrom.

Under no circumstances shall delivery of electronic files for use by the CLIENT be deemed a sale by the COMPANY, and the COMPANY makes no warranties, either express or implied, of merchantability and fitness for any particular purpose. In no event shall the COMPANY be liable for indirect or consequential damages as a result of the CLIENT's use or reuse of the electronic files.

8.17 Failure to Abide by Design Documents or To Obtain Guidance

The CLIENT agrees that it would be unfair to hold COMPANY liable for problems that might occur should COMPANY'S plans, specifications or design intents not be followed, or for problems resulting from others' failure to obtain and/or follow COMPANY'S guidance with respect to any errors, omissions, inconsistencies, ambiguities or conflicts which are detected or alleged to exist in or as a consequence of implementing COMPANY'S plans, specifications or other instruments of service. Accordingly, the CLIENT waives any claim against COMPANY, and agrees to defend, indemnify and hold COMPANY harmless from any claim for injury or losses that results from failure to follow COMPANY'S plans, specifications or design intent, or for failure to obtain and/or follow COMPANY'S guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities or conflicts contained within or arising as a result of implementing COMPANY'S plans, specifications or other instruments of services. The CLIENT also agrees to compensate COMPANY for any time spent and expenses incurred remedying CLIENT's failures according to COMPANY'S prevailing fee schedule and expense reimbursement policy.

8.18 Opinion of Probable Construction Cost

COMPANY shall submit to the CLIENT an opinion of probable cost required to construct work recommended, designed, or specified by COMPANY, if required by CLIENT. COMPANY is not a construction cost estimator or construction contractor, nor should COMPANY'S rendering an opinion of probable construction costs be considered equivalent to the nature and extent of service a construction cost estimator or construction contractor would provide. This requires COMPANY to make a number of assumptions as to actual conditions that will be encountered on site; the specific decisions of other design professionals engaged; the means and methods of construction the contractor will employ; the cost and extent of labor, equipment and materials the contractor will employ; contractor's techniques in determining prices and market conditions at the time, and other factors over which COMPANY has no control. Given the assumptions which must be made, COMPANY cannot guarantee the accuracy of his or her opinions of cost, and in recognition of that fact, the CLIENT waives any claim against COMPANY relative to the accuracy of COMPANY'S opinion of probable construction cost.

8.19 Design Information in Electronic Form

Because electronic file information can be easily altered, corrupted, or modified by other parties, either intentionally or inadvertently, without notice or indication, COMPANY reserves the right to remove itself from of its ownership and/or involvement in the material from each electronic medium not held in its possession. CLIENT shall retain copies of the work performed by COMPANY in electronic form only for information and use by CLIENT for the specific purpose for which COMPANY was engaged. Said material shall not be used by CLIENT or transferred to any other party, for use in other projects, additions to this project, or any other



purpose for which the material was not strictly intended by COMPANY without COMPANY's expressed written permission. Any unauthorized use or reuse or modifications of this material shall be at CLIENT'S sole risk. Furthermore, the CLIENT agrees to defend, indemnify, and hold COMPANY harmless from all claims, injuries, damages, losses, expenses, and attorney's fees arising out of the modification or reuse of these materials.

The CLIENT recognizes that designs, plans, and data stored on electronic media including, but not limited to computer disk, magnetic tape, or files transferred via email, may be subject to undetectable alteration and/or uncontrollable deterioration. The CLIENT, therefore, agrees that COMPANY shall not be liable for the completeness or accuracy of any materials provided on electronic media after a 30 day inspection period, during which time COMPANY shall correct any errors detected by the CLIENT to complete the design in accordance with the intent of the contract and specifications. After 40 days, at the request of the CLIENT, COMPANY shall submit a final set of sealed drawings, and any additional services to be performed by COMPANY relative to the submitted electronic materials shall be subject to separate AGREEMENT. The CLIENT is aware that differences may exist between the electronic files delivered and the printed hard-copy construction documents. In the event of a conflict between the signed construction documents prepared by the COMPANY and electronic files, the signed or sealed hard-copy construction documents shall govern.

#### 8.20 Information Provided by Others

The CLIENT shall furnish, at the CLIENT's expense, all information, requirements, reports, data, surveys and instructions required by this AGREEMENT. The COMPANY may use such information, requirements, reports, data, surveys and instructions in performing its services and is entitled to rely upon the accuracy and completeness thereof. The COMPANY shall not be held responsible for any errors or omissions that may arise as a result of erroneous or incomplete information provided by the CLIENT and/or the CLIENT's consultants and contractors.

COMPANY is not responsible for accuracy of any plans, surveys or information of any type including electronic media prepared by any other consultants, etc. provided to COMPANY for use in preparation of plans. The CLIENT agrees, to the fullest extent permitted by law, to indemnify and hold harmless the COMPANY from any damages, liabilities, or costs, including reasonable attorneys' fees and defense costs, arising out of or connected in any way with the services performed by other consultants engaged by the CLIENT.

COMPANY is not responsible for accuracy of topographic surveys provided by others. A field check of a topographic survey provided by others will not be done under this contract unless indicated in the Scope of Work.

#### 8.21 Force Majeure

The CLIENT agrees that the COMPANY is not responsible for damages arising directly or indirectly from any delays for causes beyond the COMPANY's control. CLIENT agrees to defend, indemnify, and hold COMPANY, its consultants, agents, and employees harmless from any and all liability, other than that caused by the negligent acts, errors, or omissions of COMPANY, arising out of or resulting from the same. For purposes of this Agreement, such causes include, but are not limited to, strikes or other labor disputes; severe weather disruptions or other natural disasters or acts of God; fires, riots, war or other emergencies; failure of any government agency to act in timely manner; failure of performance by the CLIENT or the CLIENT'S contractors or consultants; or discovery of any hazardous substances or differing site conditions. Severe weather disruptions include but are not limited to extensive rain, high winds, snow greater than two (2) inches and ice. In addition, if the delays resulting from any such causes increase the cost or time required by the COMPANY to perform its services in an orderly and efficient manner, the COMPANY shall be entitled to a reasonable adjustment in schedule and compensation.

#### 8.22 Job Site Visits and Safety

Neither the professional activities of COMPANY, nor the presence of COMPANY'S employees and subconsultants at a construction site, shall relieve the General Contractor and any other entity of their obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending or coordinating all portions of the work of construction in accordance with the contract documents and any health or safety precautions required by any regulatory agencies. COMPANY and its personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions. The CLIENT agrees that the General Contractor is solely responsible for job site safety, and warrants that this intent shall be made evident in the CLIENT's AGREEMENT with the General Contractor. The CLIENT also agrees that the CLIENT, COMPANY and COMPANY'S consultants shall be indemnified and

shall be made additional insureds on the General Contractor's and all subcontractor's general liability policies on a primary and non-contributory basis.

#### 8.23 Hazardous Materials

CLIENT hereby understands and agrees that COMPANY has not created nor contributed to the creation or existence of any or all types of hazardous or toxic wastes, materials, chemical compounds, or substances, or any other type of environmental hazard or pollution, whether latent or patent, at CLIENT's premises, or in connection with or related to this project with respect to which COMPANY has been retained to provide professional engineering services. The compensation to be paid COMPANY for said professional engineering services is in no way commensurate with, and has not been calculated with reference to, the potential risk of injury or loss which may be caused by the exposure of persons or property to such substances or conditions. Therefore, to the fullest extent permitted by law, CLIENT agrees to defend, indemnify, and hold COMPANY, its officers, directors, employees, and consultants, harmless from and against any and all claims, damages, and expenses, whether direct, indirect, or consequential, including, but not limited to, attorney fees and Court costs, arising out of, or resulting from the discharge, escape, release, or saturation of smoke, vapors, soot, fumes, acid, alkalies, toxic chemicals, liquids gases, or any other materials, irritants, contaminants, or pollutants in or into the atmosphere, or on, onto, upon, in, or into the surface or subsurface of soil, water, or watercourses, objects, or any tangible or intangible matter, whether sudden or not.

It is acknowledged by both parties that COMPANY'S scope of services does not include any services related to asbestos or hazardous or toxic materials. In the event COMPANY or any other party encounters asbestos or hazardous or toxic materials at the job site, or should it become known in any way that such materials may be present at the job site or any adjacent areas that may affect the performance of COMPANY'S services, COMPANY may, at its option and without liability for consequential or any other damages, suspend performance of services on the project until the CLIENT retains appropriate specialist consultant(s) or contractor(s) to identify, abate and/or remove the asbestos or hazardous or toxic materials, and warrants that the job site is in full compliance with applicable laws and regulations.

Nothing contained within this Agreement shall be construed or interpreted as requiring COMPANY to assume the status of a generator, storer, transporter, treater, or disposal facility as those terms appear within the Resource Conservation and Recovery Act, 42 U.S.C.A., §6901 et seq., as amended, or within any State statute governing the generation, treatment, storage, and disposal of waste.

#### 8.24 Certificate of Merit

The CLIENT shall make no claim for professional negligence, either directly or in a third party claim, against COMPANY unless the CLIENT has first provided COMPANY with a written certification executed by an independent design professional currently practicing in the same discipline as COMPANY and licensed in the State in which the claim arises. This certification shall: a) contain the name and license number of the certifier; b) specify each and every act or omission that the certifier contends is a violation of the standard of care expected of a Design Professional performing professional services under similar circumstances; and c) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation. This certificate shall be provided to COMPANY not less than thirty (30) calendar days prior to the presentation of any claim or the institution of any judicial proceeding.

#### 8.25 Limitation of Liability

The COMPANY agrees, to the fullest extent permitted by law, to indemnify and hold harmless the CLIENT, its officers, directors and employees (collectively, CLIENT) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the COMPANY's negligent performance of professional services under this Agreement and that of its subconsultants or anyone for whom the COMPANY is legally liable.

The CLIENT agrees, to the fullest extent permitted by law, to indemnify and hold harmless the COMPANY, its officers, directors, employees and subconsultants (collectively, COMPANY) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, to the extent caused by the CLIENT's negligent acts in connection with the Project and the acts of its contractors, subcontractors or consultants or anyone for whom the CLIENT is legally liable.

Neither the CLIENT nor the COMPANY shall be obligated to indemnify the other party in any manner whatsoever for the other party's own negligence or for the negligence of others.

8.26 Design Without Construction Observation

It is agreed that the professional services of COMPANY do not extend to or include the review or site observation of the contractor's work or performance and the CLIENT assumes all responsibility for interpretation of the contract documents and for construction observation. It is further agreed that the CLIENT will defend, indemnify and hold harmless COMPANY from any claim or suit whatsoever, including but not limited to all payments, expenses or costs involved, arising from the contractor's performance or the failure of the contractor's work to conform to the design intent and the contract documents. COMPANY agrees to be responsible for its employees negligent acts, errors or omissions.

This AGREEMENT is approved and accepted by the CLIENT and COMPANY upon both parties signing and dating the AGREEMENT. Work cannot begin until COMPANY receives a signed agreement. The effective date of the AGREEMENT shall be the last date entered below.

Sincerely,

HR GREEN COMPANY

Mark Mueller

Mark Mueller, P.E.

Approved by: Dan Lovett

Printed/Typed Name: Dan Lovett

Title: Vice President Date: 11/16/10

CITY OF ANKENY

Accepted by: \_\_\_\_\_

Printed/Typed Name: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_